I Claim:

1. A pressure-actuated valve comprising:

(a) a valve body with a cavity formed therein, said cavity being defined by a retaining cap at one end of the valve body and extending from there for a length until an annular wall is encountered, said annular wall separating the cavity for the remainder thereof into a central bore and an outer annular region, said valve body having two passages from outside the valve body into the bore serving interchangeably for inlet and outlet of fluids (possibly containing small solids) whose flow is to be controlled by the valve, and an annular valve seat disposed in said bore between said inlet and said outlet, said inlet and outlet being disposed in the bore remote from the retaining cap, said retaining cap having a passage through it providing communication between outside the valve body and the valve body cavity;

(b) a plunger with a head and a sealing end, said plunger being movably disposed within said bore with said head end extending out of the bore into the valve body cavity, said head being larger than the outer diameter of said annular wall enclosing said bore, said sealing end being adapted for operative engagement with said valve seat thus preventing fluid flow between the inlet and the outlet and constituting the off position for the valve, said plunger having a range of travel in the bore to a valve-open position at which the plunger head contacts the retaining cap, said plunger's length being determined such that fluid passage between the inlet and the outlet is substantially unobstructed by the plunger in the valve-open position;

(c) a spring disposed in said outer annular region surrounding said bore such that the plunger head contacts the spring requiring compression of the spring in order for the plunger's sealing end to contact the valve seat wherein, in operation, a high-pressure actuating fluid entering the valve body cavity through the passage in the retaining cap exerts pressure on the plunger head tending to force the plunger toward the valve seat and closing the valve when the fluid pressure overcomes the spring's resistance; and

(d) a seal between the plunger and the bore disposed between (i) the fluid inlet and outlet and (ii) the end of the bore nearer to the retaining cap, said seal isolating the high-pressure actuating fluid from the fluid flowing between said valve body inlet and outlet.

2. The valve of claim 1, further comprising a bushing movably disposed between said spring and said plunger head, said bushing serving as a shim adjustment to the valve operation, thereby determining the bushing's thickness.

3. The valve of claim 1, wherein one of said two passages into the core for valve-controlled fluids is disposed such that it enters the bore non-axially into the side of the bore at a location between the valve seat and the plunger head, thereby enabling no more than negligible fluid pressure on the plunger in a direction tending to force the valve open from a closed position.

4. The valve of claim 3, wherein the other passage into the core for valve-controlled fluids is a continuation of said bore through the valve body at the end of the valve body remote from the retaining cap.

5. The valve of claim 1 wherein the clearance tolerance between the plunger and the core is between 0.13 mm and 0.25 mm.

6. The valve of claim 1 where the valve seat is designed with a chamfer of approximately 45 degrees.

7. The valve of claim 1, wherein said annular valve seat has a radial dimension of approximately 0.25 mm.

8. The valve of claim 1, wherein said valve body is formed for cartridge-style deployment.

9. The valve of claim 1, wherein said spring is designed to be in a state of partial compression with said plunger head in contact with said retaining cap.

10. The valve of claim 1, wherein said spring comprises a plurality of stacked Belleville (disc) springs.